☐ **Generate Collection**   **Print**

L18: Entry 72 of 95   File: USPT   Mar 30, 1999

US-PAT-NO: 5890147
DOCUMENT-IDENTIFIER: US 5890147 A

TITLE: Scope testing of documents in a search engine using document to folder mapping

DATE-ISSUED: March 30, 1999

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Peltonen; Kyle G.	Issaquah	WA		
Raju; Sitaram C. V.	Issaquah	WA		
Milewski; Bartosz B.	Seattle	WA		

ASSIGNEE-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY	TYPE CODE
Microsoft Corporation	Redmond	WA			02

APPL-NO: 08/ 813618   [PALM]
DATE FILED: March 7, 1997

INT-CL: [06] G06 F 17/30

US-CL-ISSUED: 707/1; 707/3, 707/100, 707/102, 707/200
US-CL-CURRENT: 707/1; 707/100, 707/102, 707/200, 707/3

FIELD-OF-SEARCH: 707/1, 707/2, 707/3, 707/4, 707/5, 707/6, 707/100, 707/200, 707/102

PRIOR-ART-DISCLOSED:

U.S. PATENT DOCUMENTS

Search Selected   **Search ALL**   **Clear**

	PAT-NO	ISSUE-DATE	PATENTEE-NAME	US-CL
☐	5202986	April 1993	Nickel	395/600
☐	5319762	June 1994	Mayer	395/425
☐	5333317	July 1994	Dann	395/600
☐	5465353	November 1995	Hull et al.	395/600
☐	5544360	August 1996	Lewak et al.	395/600
☐	5692173	November 1997	Chew	395/603

h   e b   b g ee e f c   e   e ge

☐ <u>5701469</u>   December 1997   Brandli et al.   395/613

☐ <u>5729730</u>   March 1998   Wlaschin et al.   395/603

ART-UNIT: 276

PRIMARY-EXAMINER: Kulik; Paul V.

ASSISTANT-EXAMINER: Wallace, Jr.; Michael J.

ATTY-AGENT-FIRM: Michalik, Esq.; Albart S.

ABSTRACT:

A method and mechanism for responding to a query in a hierarchically organized
system of documents and folders. In response to the query, a set of documents is
retrieved based on specified criteria. Only documents in that set which match a
specified scope are returned in a result set. Scope testing is performed on each of
the documents in the set by obtaining a document identifier of each document, and
then using that document identifier to obtain a document identifier of the parent
folder thereof. The document identifier of the parent folder is used as a key to a
data structure, which stores flags indicative of whether parent folders are in the
specified scope. If the flag for a given parent folder indicates that the parent
folder is in scope, the document having that parent is returned in the result set.
If the flag indicates that the current document is not in scope, that document is
not returned. If there was not an entry in the data structure for that key, prefix
matching is performed on the parent folder to determine whether it is in scope. The
parent folder scope information is then added to the data structure as a flag
indexed by the document identifier of the parent folder.

31 Claims, 15 Drawing figures

h   e b   b g ee e f   c   e   e ge

☐ �en Generate Collection ║ Print║

'L5: Entry 50 of 57   File: USPT   Jun 5, 2001

DOCUMENT-IDENTIFIER: US 6243724 B1
TITLE: Method and apparatus for organizing information in a computer system

Brief Summary Text (7):
Hierarchical filing systems on computers attempt to improve filing systems by
providing a hierarchy of folders or subdirectories into which the user may store
information, such as text documents. Examples of hierarchical filing systems are
well known in the prior art, including a hierarchical filing system disclosed in
U.S. Pat. No. 4,945,475. In these hierarchical filing systems, the user will file a
document into a folder which may itself be within another folder. Looking for any
documents within a first folder will require opening the first folder after opening
the second folder which contains the first folder. In this manner, the user is not
presented with a bewildering number of documents as in the flat filing system and
the user's files are maintained in an orderly and systematic way within the
hierarchy specified by the user. An example of this hierarchical filing is shown in
FIG. 2 of the U.S. Pat. No. 4,945,475 wherein documents 21 and 22 are within folder
20 which itself is within folder 18 which is also stored in another folder, folder
17. Thus, in order to view documents 21 and 22 the user must direct the computer
system to examine the contents of the subdirectory represented by folder 20 by
specifying the full address of folder 20 (in the case of a non-graphical user
interface) or by opening the series of folders necessary to obtain a view of the
folder containing the desired documents (in the case of a graphical user
interface). Current versions of the Finder on the Macintosh computer systems from
Apple Computer are examples of hierarchical filing systems with graphical user
interfaces, and other such filing systems with graphical user interfaces are well
known.

Detailed Description Text (67):
The system and method of the present invention also provide a mechanism for
searching documents in the file system of the computer whether those documents are
in piles or conventional subdirectories/folders. This method is shown in FIG. 19
and begins at step 901, in which the system determines whether the user wants to
search for documents matching a set of terms which are specified by the user.
Typically, the user will indicate that a search is desired and the system will
respond with a question asking the user whether the user wishes to define a set of
terms or to specify a sample document. It will be appreciated that, other possible
means of requesting a search or formulating a search may be used. If the user wants
to specify a set of terms, the system allows in step 903 the user to do so and then
creates in the step 905 a virtual document vector (or other representation of the
terms) for the set of terms (and their user selected weights, unless by default the
terms are equally weighted). That is, the user specifies terms and then those terms
are used to specify a vector of a virtual document which Is used later when
processing. Processing from step 905 proceeds directly to step 911. If the user
wishes to search using a sample document (e.g. create a pile from a sample document
manually by searching and obtaining a list of the documents or automatically create
a pile containing the search results) then processing proceeds from step 901 to
step 907 in which the system requests the user to specify the sample document; if
no sample document is specified processing loops back to node C waiting for an
interrupt or other instruction indicating to begin the search process. After the
sample document is specified in step 907, the system proceeds to step 911 in which

h   e b   b g ee ef c   ef   e ge

it compares each document's vector (or other representation of the document) in the system with the document vector (or other representation) of the sample document or the document vector (or other representation) of the virtual document created in step 905. This may occur by any of a number of ways of determining a similarity measure, including by determining the unit dot product of the sample document's vector against the vector of all documents in the system. It will be appreciated that alternative similarity measures or search routines may be employed, such as measuring the similarity between the document and each pile or <u>folder and then searching</u> within those piles or folders having the best matches to the document. It is noted that this comparison can eliminate documents which are not close enough by testing each dot product against a preselected threshold.

<u>Previous Doc</u>   <u>Next Doc</u>   <u>Go to Doc#</u>

h   e b   b g ee e f   c   e f   e ge

☐ Generate Collection   Print

L5: Entry 57 of 57   File: USPT   Jun 22, 1993

DOCUMENT-IDENTIFIER: US 5222234 A
TITLE: Combining search criteria to form a single search and saving search results
for additional searches in a document interchange system

Detailed Description Text (29):
The FROM phrase 54 allows the specification of a folder, a Search Result Document
(SRD), or a list of documents to which to apply the filter. When the FROM phrase
specifies a list of documents, this list may be specified as a list of Library
Assigned Document Names (LADNs) or as a stored list in a Search Result Document's
(SRD) search result section. The SEARCH command will only apply the search filter
to those documents contained within the scope indicated by the list. In the absence
of a document scope, all documents that the user has at least read access to will
be included in the search.

CLAIMS:

1. A method of forming a single search criteria for locating a library object
stored in one of a plurality of shared libraries by a library server in a document
interchange management system, said library object existing as a first folder
document containing a plurality of related documents in said shared libraries, said
method comprising:

specifying at least one of said plurality of shared libraries by a user at said
library server in said document interchange management system to be searched by
said library server for said library object;

identifying said first folder document to be located by said user at said library
in said document interchange management system by said library server;

combining said one of said plurality of shared libraries and said first folder
document into said single search criteria and executing said single search criteria
by said library server in said plurality of shared libraries to locate said first
folder document and said plurality of related documents and storing the search
results in a second folder document; and

storing said single search criteria in a third folder document by said library
server for use in additional searching of said shared libraries.

h   e b   b g ee e f   c   e f   e ge